

The Coastal Plainer

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Message From The MO-Leader's Desk

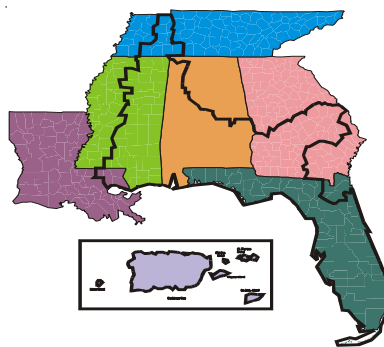
By Charles Love, State Soil Scientist/
MO-15 Team Leader

Greetings,

I would like to express my appreciation for all of the soil survey accomplishments within MO-15 during this fiscal year. I hope you feel both pride and satisfaction in our accomplishments related to quality assurance activities for correlation, map compilation, digitization projects, digital map finishing, and product delivery efforts. The MO-15 team is dedicated to providing the best services we can and to ensuring top quality soil survey products that meet national standards and priorities. We had a very successful year, and next year is shaping up to be another. We were able to overcome many challenges while meeting the needs of many diverse internal and external customers.

Special thanks to all our cooperators in MO-15 for their assistance in carrying out special studies and other activities. I am happy to

MLRA Soil Survey
Region #15



report that we will be moving forward with a Water Table Special Study, which will use electronic water-data loggers and other new technologies for key soils. Please look for more detailed information on this special study in the near future.

One of our accomplishments this year was to improve our skills by attending training. I am a strong believer in timely training to enhance our skills for the accomplishment of our overall goals. Below, I have highlighted two recent training sessions that were right on time for our soil scientists.

Several soil scientists from MO-15 participated in the Midwest Soil Survey MLRA Project Leaders New Technologies Conference held in Madison, Wisconsin, August 12th to 16th.

The conference was provided by MO-10 and MO-11. The technological tools presented at the conference demonstrated the cutting edge of soil survey efforts in the 21st Century. The training provided an opportunity to see how MLRA-based soil survey work areas are operating in the Midwest and to see how they are using new technologies. I would like to thank the Midwest Soil Survey Team for sharing this training with our soil scientists and GIS specialists.

We will be able to use many of the techniques demonstrated at

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the conference. We want to move forward with similar efforts to help strengthen our vision of implementing the MLRA concept by deploying new technologies as important operating tools within MO-15.

In the future, we hope to host a similar conference related to new technologies; therefore, I am asking for ideas from our soil scientists, GIS specialists, and cooperators—ideas to facilitate such an effort in MO-15. Please contact me if you have suggestions for topics for a future conference.

Several project leaders from MO-15 attended workload analysis training provided by the MO-14 team. This excellent training course was called Progressive Soil Survey Workload Analysis and Time Management Training. Marc Crouch, training team leader, and others from MO-14 put together the training to address the management concerns of soil survey project leaders.

The training focused on evaluating, planning, measuring, and accountability. It taught the use of an effective long range plan, an annual plan of operations, and other aids for the managing and scheduling of soil survey activities. The soil scientists that attended the training gained valuable tools for managing their soil survey areas.

Marc Crouch and the other MO-14 team members are to be commended for preparing

outstanding lesson plans and providing a first-rate training course. A special thanks to Roy Vick, MO leader, and the MO-14 Board of Directors for providing this service to soil survey project leaders and others.

Finally, I want to again express my sincere thanks to each of you for a job well done and express my confidence that in the coming year we will be able to meet the

challenges arising from the 2002 farm bill and from the implementation of new technologies. I am sure that this time next year I will be able to again express my appreciation for all of your hard work, commitment, and dedication in helping to meet customer needs for MLRA Region 15 and the National Cooperative Soil Survey Program. ■

On the Web

The following soil surveys from MO-15 States are on the Web at <http://www.mo15.nrcs.usda.gov/publications.htm>. The earliest survey on the Web was Dade County, Florida, which was posted in 1995 and was revised with maps in September 2000. Our most recently posted survey was Attala County, Mississippi, which went up on the Web November 4, 2002.

Alabama

Butler County
Choctaw County
Marengo County
Perry County
Pickens County
Russell County
Wilcox County

Caribbean Area

Caribbean National Forest
Humacao Area
Lajas Valley Area
Mayaguez Area
United States Virgin Islands

Florida

Calhoun County
Dade County
Escambia County
Glades County
Gulf County
Hamilton County
Okeechobee County
Taylor County

Georgia

Bleckley, Dodge, and Telfair
Counties
Emanuel County
Jasper County
Newton and Rockdale
Counties
Pulaski and Wilcox Counties

Mississippi

Attala County
Perry County
Smith County

Tennessee

Cheatham County
Cumberland County
Grainger County
Jefferson County
Marshall County
McMinn County
Polk County
Trousdale County ■

Midwest Soil Survey Project Leader Technology Meeting

By John Burns, Soil Scientist

The Midwest Soil Survey Project Meeting in Madison, Wisconsin, was very informative and educating. The Midwest seems to be at the forefront of using technology in the Soil Survey Program.

One of the first speakers to jump start the meeting was William Hunt, the State Conservationist for Minnesota. He stated that soils are the foundation of the NRCS, but that NRCS is a 3-legged stool—the three legs being soils, conservation, and plants. He also mentioned that the Soil Survey Program has been on a “flat-line budget,” and that the budget has not had a significant increase in many years. For the Soil Survey Program to progress (and not just survive) in the coming years, it must have a significant budget increase to get its jobs done. The onset of technology as a necessary tool makes a budget increase especially necessary.

The soil survey updates are a colossal job for the Soil Survey Program. Numerous soil surveys need updating in all states; and even where the survey does not need updating, the customers still want the survey digitized to allow expanded use. William Hunt

also mentioned that the money would not come unless the Soil Survey Program and soil scientists market themselves better. “It’s too bad, but everything revolves around politics,” he said. Soil scientists need to be better politicians, not in a selfish way, but in a way that is honest and legitimate. The need is there. As William Hunt says, “The first thing that is asked for at soil conservation meetings are soil surveys.”

Well, with the wave of technology at our hands, the first presentation was meant to remind soil scientists of their job’s foundation: “The Fundamentals of Soil Survey Applied to Updates.” The gist of the presentation was that despite the tremendous breakthroughs in technology we should not forget what got us here over the past 100 years. The fundamentals that we were reminded of were understanding the soil forming factors, describing soils, understanding soil-landscape relationships, and conveying this information to the users. The bottom line was this: if we forget the fundamentals, then the technology isn’t going to do us any good.

So finally, the technological “goodies” that were presented were exciting. Some older soil scientists on the verge of retirement were saying that they wanted to stay on just because they are having so much fun. And it’s true, these technological advances do make the job more fun. Here

is an overview of the most important tech tools needed by the 21st century soil scientist:

- **3dMapper** is software that enables a soil scientist to view orthoquads in 3-D—with more accurate lines drawn with GIS software—and produce computer-generated block diagrams.
- **Orthomapper** is a program that allows ortho-rectification of field sheets or atlas sheets for use in 3D-mapper without manual compilation to an orthophoto mylar or other manual procedures.
- **HP IPAQ** enables a soil scientist to enter pedon data with Pendragon software and to map in the field in “real time,” drawing digital lines right on the IPAQ screen. Attaching a GPS unit to the IPAQ enables real time.
- An **Electromagnetic Induction Meter** (EM) is used to show the variability of soil map units and landscapes in technical soil work. It may improve both update soil surveys and our technical soil onsite investigations.
- **ArcGIS** is a new ESRI product that enables a soil scientist to create and change soil lines digitally and to view multiple layers, such as soil lines, DRGs (digital topographic maps), DOQs (digital orthoquads), and drainage lines.

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Soil scientists need to know about these tools that make their job easier, more efficient, and more fun. And as was said above, we need to practice the fundamentals of soil science (our foundation) for these technological tools to work. Using these tools on a foundation and using the right tool for the job will make our job much more efficient.

Meetings about technology for the soil scientist project leader need to be held about every other year in different MOs to keep us up to speed, to facilitate effective communication, and to encourage us to do the best job we can for our customers. ■

Soil Science Institute II

by Sandy Page and John Burns, Soil Scientists

During most of the month of September, the first Soil Science Institute II (SSI II) was conducted at New Mexico State University (NMSU) in Las Cruces, NM, which is in the heart of the southwestern desert region. Thirty-three soil scientists, representing about 22 states and Puerto Rico, participated in the course. Three representatives of MO-15 attended. They were John Burns, Jorge Lugo, and Sandy Page.

The Soil Science Institute II is similar in format to the Soil Science Institute I. Both are intensive courses sponsored in part by a university. The Soil

Science Institute I is a refresher course of many aspects of soil science. The primary focus of SSI II is geomorphology. The second soil science institute was created because geomorphology is such an important aspect of soil science. Also, many of the experienced NRCS soil scientists have already attended Soil Science Institute I, and SSI II would provide them with additional training. The two courses will now be offered in alternate years.

Dr. Curtis Monger, a native of Tennessee, was the course sponsor for NMSU. Dr. Monger did an excellent job of organizing the course, leading the field trips, and conveying—with humor and wit—part of his

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Participants in the first Soil Science Institute II.



Alluvial fan on a piedmont slope of the Organ Mountain.

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extensive knowledge about the region, desert-soil genesis, and southwestern-soil geomorphology. Other notable presenters and their topics included Dr. Jimmy Richardson, North Dakota State University, on general principles of soil hydrology; Dr. Richard Langford, University of Texas, El Paso, on eolian processes and deposits; Dr. David Hammer, University of Missouri, on urban soils; Dr. Nancy McMillan, New Mexico State University, on Quaternary volcanism; and Dr. Bruce Harrison on the study of how soils may be affected by recent tectonics. Discussions of several aspects of geomorphology were presented by NRCS staff members from Lincoln, Nebraska. They were Carolyn Olson, National Leader for Soil Survey Investigations, and Phil Schoeneberger and Doug Wysocki (aka Fill and Dug). Arlene Tugel and Joel Brown, representing the Soil Quality Institute and Jornada Experimental Range, respectively, along with fellow institute attendee Pat Shaver, rangeland

management specialist, provided insight on regional soil-plant relationships, ecosystem processes, and landscape ecology.

A major theme throughout the institute focused on soil-geomorphic relationships in an arid to semiarid basin and range setting. One benefit of studying geomorphology in the desert is that the lack of vegetation enables the landforms to be seen without a canopy cover. Much of the study area for SSI II was that of the Soil-Geomorphic Project of the U.S. Soil Conservation Service (informally known as the Desert Project). The Desert Project encompasses a 400-square-mile area studied by a team of soil scientists and geologists from 1957 to 1972. The Desert Project continues today through the efforts of two of the original project members, Lee Gile and John Hawley, plus spin-off studies conducted primarily by students and researchers from NMSU. The project was, and is, a cooperative effort between the U.S. Soil Conservation Service, now the Natural Resources Conservation

Service, the Agricultural Experiment Station, the New Mexico Bureau of Mines and Mineral Resources, and the Department of Agronomy at New Mexico State University.

To my knowledge, there has never been such a comprehensive study of soil geomorphology and soil genesis conducted in this country, at least not sponsored by the Federal government. Prior to 1957, little was known about soil genesis in arid regions. The original project was conceived of, and spearheaded by, such SCS notables as Guy Smith and Robert Ruhe. Over the years, other major contributors have included Fred Peterson, Bob Grossman, Warren Lynnn, Curtis Monger, Lee Gile, and John Hawley. Along with Dr. Monger, the latter two fellows are still contributing to this day by conducting research, leading formal field tours (such as the upcoming World Congress of the International Union of Soil Scientists in 2006), and providing guidance and insight to other current researchers. We were fortunate to have John Hawley, senior environmental geologist, Lee Gile, retired soil scientist, and Bob Grossman, soil scientist, as instructors in the classroom and the field.

The area of the Desert Project straddles the Rio Grande River Valley and includes the Jornada del Muerto Basin and several mountain ranges. Field investigations included mapping the

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Boulders from mass movement near Aguirre Springs on the east side of the Organ Mountains.

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soils, geomorphic surfaces, and surficial deposits at a scale of 1:15,840. Joint laboratory and field investigations included studies of characteristics of soils and soil horizons, pedogenic carbonates and organic carbon, and effects of additions of eolian deposits in the form of dustfalls. Extensive work regarding geologic history, structure, and deposits has been sponsored by the New Mexico Bureau of Mines and Mineral Resources. Forty-five years of research in the fields of soil science, geology, geomorphology, and ecosystem sciences has produced a tremendous amount of knowledge.

SSI II was a well-planned mix of classroom study and field trips. Although not everybody might agree that their favorite pastime was standing under the desert

sun collecting more photons (as Dr. Monger was fond of saying), there is no denying that southwestern New Mexico is a beautiful place. Participants were fortunate to be able to participate in several field trips that included interesting soil/landscape relationships and beautiful scenery. For example we studied:

- Geomorphic surfaces, soil development, ecological and pedological relationships, and mass movement on extensive alluvial fans and piedmont slopes in the Organ Mountains,
- Eolian process and derivation of the remarkable gypsum sand dunes at White Sands National Monument, and
- Basalt flows, ashfall tuffs overlying buried argillics of Pleistocene-age soils, and a two-mile wide crater on the desert basin floor caused by a hydrothermal explosion at Kilborne Hole. ■

Basic Field Conservation Course

By Angela Warden, Soil Scientist

Eighteen new employees attended the NRCS Basic Field Conservation Course in Oklahoma City from September 16th to 20th. They were from 11 different states and included soil scientists, soil conservationists, soil conservationist technicians, a civil engineering technician, a computer specialist, an agricultural engineer, and an archeologist. Angela Warden, soil scientist, and Jennifer Wells, soil conservationist, represented Alabama.

During the week, the participants learned about the history of the NRCS and its inception due to the efforts of Hugh Hammond Bennett. They also learned about the various types of fieldwork, such as conservation planning, that our agency provides to the public. Typically, the first half of the day was spent in the classroom and the afternoon was spent on field trips. On the first day, each person had to give a presentation entitled "My Role in the NRCS." The presentations enabled the participants to get a better understanding about the activities of others in the NRCS. The field trips enabled most to see a new type of landscape and to become familiar with a variety of different practices in which NRCS participates.

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Early in the week, the field trips visited rural and urban conservation practices across the State. At one site, a developer practiced conservation by not having curbs in his subdivisions and only having grassed strips as well as a dry hydrant. At another site, a teacher showed her outdoor classroom, which demonstrated how to prevent erosion, reduce sediments in the water, and protect a wetland. The owner of a cattle feedlot with a capacity of up to 5,000 head of beef cattle demonstrated to the class how he practiced nutrient and AFO waste management practices. One farmer was funded by NRCS with \$30,000 to help him implement better conservation practices and to help reduce soil erosion due to the wind and water. The class was able to see the "end product."

The participants were also fortunate enough to tour the Fort Reno ARS Station, which conducts climate and bovine research and monitors native grasses and watersheds. Later in the week, the participants toured the ARS hydraulics laboratory near Stillwater, Oklahoma. At the lab, they met with agricultural engineers who showed them models that simulated unique stabilization structures they designed for a local watershed under 1-year, 10-year, and 30-year flood conditions. A graduate student working in the lab also showed a model that he was working on to

show the effects of properly installed silt fencing.

The participants also saw how NRCS teams up with other agencies and institutions to implement the NRCS mission and vision. The Teal Ridge Watershed Site and Langston University were examples. While at Langston, the participants toured the E (Kika) de la Garza Institute for Goat Research and learned about the Center for Outreach Programs. They also sampled some of the Center's homemade cheeses and strawberry ice cream.

The instructors were Theodis Bunch, "The Don," Jimmie Lansford, and Jerry Williams. They did an outstanding job. Charles Adams, regional conservationist for the Southeast, and Kevin Norton, assistant state conservationist for programs in Oklahoma, were two of the guest speakers that were thoroughly enjoyed. Mr. Adams presented us with his "Practicing Insightful Thinking" article while providing the group with his insight regarding the direction that the NRCS is going and where it currently is. The group also saw Oklahoma State University; ate at Eskimo Joe's, the Cattleman's Club, and Brick Town; and toured the Oklahoma City Memorial. ■



Editor's Note

Issues of this newsletter are available on the Internet on the MO-15 homepage (<http://www.mo15.nrcs.usda.gov/>). Click on "MO-15 Items" and then on "The Coastal Plainer, Quarterly Newsletter."

You are invited to submit stories for future issues to Aaron Achen, editor, MO-15, Auburn, Alabama.

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Practicing Insightful Thinking

by Charles R. Adams,
Southeast Regional Conservationist

Preface: I wish to convey to the reader that the soil scientist typically focuses narrowly on the well-defined science of their discipline while many other forces within the workplace impact their upward mobility.

To my coworkers and to my fellow competitors who narrowed their competition by expelling me from the fertile soils of Texas in October 1973, I bring greetings from all the NRCS employees in the Southeast Region. I feel honored in writing to you today. You represent the best that we have to offer in the soils program—the cream of the crop, so to speak.

I have an innate fondness for the soils program, after having formal training in soil science and working as a soil scientist. I have chosen the subject "Practicing Insightful Thinking," not because there is an abundance of practitioners among the ranks of soil scientists, but rather because there is only a pitiful handful. I hope that by the time you finish reading this article, you will have gone through several mental changes. First, you will have a deep-seated response to reading this article. Second, you will question yourself and repeat honestly—as the disciples did when Christ declared that one of them would betray him—"Lord, is it I?" Third, you will commit within your heart and to your employees to make an impact on the "Insightful Thinking" of soil scientists within the Natural Resources

Conservation Service. Okay, let's turn up the thermostat!

How many of you know what form SF-52 is? It's the Request for Personnel Actions form. If I were a relatively new soil scientist in NRCS, I would sign this form today under part E: Employee Resignation. Under "Reason for Resignation," I would get busy indicting my supervisor—who no doubt would be a soil survey party leader. Then by taking my case to the Merit Systems Protection Board, I would accuse that leader of "Not Practicing Insightful Thinking." You see, after a few months on the job the average employee starts to take note of their environment. They notice that every other discipline under the sun is afforded training opportunities, that others receive the lion's share of incentive awards, that others are counseled to dress for success, and that others often obtain key positions on standing committees. Others are asked early in their careers what their goals are; definitive training plans are developed and monitored to ensure their success. Still others are privy to conferences and functions that keep them abreast of what's available in the organization. The soil scientist, however, having obviously been born under a bad sign, is relegated to a lesser role from day one. No one talks DRESS CODE. After the first day digging field pits, the poor soul figures out through logical deduction that

work clothes are needed befitting the assignment! Soil scientists are never told to dress for the occasion—never told that blue jeans are inappropriate for a NRCS meeting. The young staffer, being observant, probably noted on the first trip to the office the dilapidated government vehicle with the faded paint in the parking lot. It never dawns on the new recruit that "this is your vehicle!"

The new soil scientist travels backroads with infrequent sightings of human and animal life while depending on a piece of junk to get back to the dinner table and an attention-starved, glossy-eyed family in the evening. But yet, there is worse to come. The new employee walks through the office door and the soil and range conservationists are seated with books and neatly stacked papers. In a corner sits a chair with springs protruding through the seat and an old military desk loaded with what appears to be the disorganized field notes of every job since 1950.

The only positive note in this "all too true" and "all too frequent" situation is that we hire soil scientists from many of the better schools, such as Cornell, Southern, and Purdue. It doesn't take long for our bright upstarts to realize that, although they attended the same schools as the other professionals in the office, they are on a different

track. This rings home clearly when the young soil scientist is ushered to the field at the same hour as the office staff conference.

By such actions the soil scientist is made to feel different and therefore begins to believe that such treatment is justifiable. "I'm different, and I should expect to feel differently. It's OK to discriminate against me because I'm programmed for such treatment." The other recruits are being channeled towards training models created to advance them into higher level positions, such as district conservationist.

Isn't it OUR RESPONSIBILITY to let new soil scientists know that with the proper training and exposure, any employee can ascend through the ranks?

I recently read an article that stated that the dodo bird didn't have a plan—he stayed on the endangered list too long and is now extinct! Soil scientists, do you want to continue on the endangered list and become extinct? Unless you start to "Practice Insightful Thinking" and drop the notion that the virtues of our profession will be gone when we finish the once-over survey, we are going to be like the dodo bird. We spend our careers encouraging our neighbors to install conservation practices. We all need to install conservation practices in our careers too. If you don't have a career goal in sight, you need more practice. Let's be positive and "Practice Insightful Thinking."

If the conservation provisions of the Food Security Act (FSA) of

1985 did nothing else, they should have reinforced our faith in the discipline of soil science. I am reminded of a story. A pitcher threw a ball to the batter. When the umpire hesitated to make a call, the catcher turned and asked, "Is it a ball or a strike?" Obviously offended that the catcher had ventured into unsolicited territory, the umpire cleared his throat and replied, "It ain't nothing until I call it!" FSA, with its conservation provisions, would never have gotten off the ground had it not been for the soil scientists. So you see, each employee in the 470 series should respond about their difference, "Yes, I am different—I am important—and someday I may be YOUR District or Area Conservationist, State Soil Scientist, State Conservationist, or even Regional Conservationist!"

For those that have been around this agency for 20 years or more, you have seen a lot of changes in the soils program, including the establishment of the National Soil Survey Center. This was a shocking change for many of you. Some of you are not ready for change because you are not in the habit of "Practicing Insightful Thinking." Others have the nerve to move out with a new thought.

We have a group of new achievers at our disposal ready to be recruited and trained. We must no longer leave recruitment of soil scientists up to the personnel folks. How many of you State Soil Scientists can adequately and effectively recruit a college graduate? How many of you have done some recruiting

in 2002? If you didn't, you should have. It's YOUR program. You wouldn't send me out to recruit a spouse for you, would you? Recruiting employees is not a whole lot different. After all, you are making a 30-year commitment each time you bring on a new employee. Be Insightful. Envision what this new recruit will offer the discipline over a 30-year career. Then set out to make some lasting positive impact on that career. Let your employees know what it takes to be promotable.

In uncharted territories and lightly trodden paths (such as our water quality initiative), strong and determined individuals are needed to clear the path for others. You are those determined individuals. New recruits will enter our workforce with new ideas about technology. Regardless of their field of study, they will believe that the world awaits the new expertise they bring to the table. They will be rudely awakened to the reality that this agency tends to resist change. Because of this, it is imperative that you "Practice Insightful Thinking." Assist them in understanding the goals and mission of our agency and in becoming productive and loyal members of a great team.

(Charles R. Adams' career with NRCS spans 35 years. He started out as a student-trainee soil scientist in Carthage, Texas, and is currently the Regional Conservationist for the Southeast Region, which includes nine states, Puerto Rico, and the Virgin Islands. —Editor.) ■